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EXAMINER

SHAH, CHIRAG G

ART UNIT PAPER NUMBER

2664

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/629,782

Applicant(s)

LOU, HENG

Examiner

Chirag G Shah

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/26/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4-10, 13-18, 20, 21, 22, and 24 rejected under 35 U.S.C. 102(e) as being anticipated by Roberts et al. (WO 96/10303).

Referring to claims 1, Roberts discloses in the abstract and in figures 1, 2, and 4 of a system for transporting data over a network, the system comprising a data head end 10 that is communicatively coupled to the network (figure 1) and to at least one data source (video host distribution terminal-VHDT 14); at least one service unit (HDT 12) coupled to the network of figure 1; an encoder (RF Modem Module 52 –transmitter in figure 2) that couples the data headend 10 to the network, wherein the encoder modulates data (as disclosed in abstract and in page 8, lines 15-24) from the at least one data source using a first modulation technique (either QAM or QPSK) and transmits the modulated data over the network in a first frequency band to selected service units (“downstream transmission”) (as further disclosed of transmitting first bandwidth on page 7, lines 21 to page 8, lines 24 and page 10, lines 1-11); each service unit (as disclosed in the abstract and figure 1 and on page 12, lines 19-24) including a decoder for demodulating data from the downstream transmission and a modulator that modulates data using

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a second (the RF demodulator 104 would include circuitry capable of demodulating the modulated signal), different modulation technique for transmission to the data head end over the same network in the second frequency band ("upstream transmission"), such that the data rate of the downstream transmission is different from the data rate of the upstream transmission (as further disclosed of transmitting second bandwidth on page 14, lines 11-29) as claim.

Referring to claim 10, Roberts et al discloses in figures 1, 2, and 4 of a head end 10 for a data transport network, the headend 10 comprising: a data head end (VHDT 14) having at least one interface for connection to a data source; an encoder (RF Modem Module 52 –transmitter in figure 2), communicatively coupled with the data source through the at least one interface of the data head, wherein the encoder modulates (as disclosed in abstract and in page 8, lines 15-24) data from the at least one data source using a first modulation technique (either QAM or QPSK) and transmits the modulated data over the network in a first frequency band to selected service units ("downstream transmission") (as further disclosed of transmitting first bandwidth on page 7, lines 21 to page 8, lines 24 and in 10, lines 1-11); and a telephony headend 12 that receives data from service units (MISU) for the data headend, wherein the data from the service units is modulated using a second, different modulation technique for transmission over the same network in a second frequency band ("upstream transmission"), such that the data rate of the downstream transmission is different from the data rate of the upstream transmission (as further disclosed of transmitting second bandwidth on page 14, lines 11-29) as claim.

Referring to claim 18, Roberts et al discloses in figures 1, 2 and 4 of a method for transporting data over a network, the method comprising: receiving data from a data source; modulating the data with a modulation technique (either QAM or QPSK) that produces a

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downstream transmission with a first data rate (as disclosed of transmitting first bandwidth on page 7, lines 21 to page 8, lines 24 and in 10, lines 1-11); and receiving upstream transmission from a service unit with a second, different data rate over the same network (as disclosed of transmitting second bandwidth on page 14, lines 11-29) as claim.

Referring to claim 22, Roberts et al discloses in figures 1 and 4 of a service unit (MISU) for transport of data over a network, the service unit (MISU) comprising: a decoder that receives downstream data in a first frequency band over the network with a first data rate disclosed of transmitting first bandwidth on page 7, lines 21 to page 8, lines 24 and in 10, lines 1-11); and a modulator 104, coupled to the same network, that provides upstream data over the network in a second, different frequency band with a second, different rate (as disclosed of transmitting second bandwidth on page 14, lines 11-29) as claim.

Referring to claim 4, 13, and 20, Roberts et al discloses in figure 1 on page 12 of HDT 12 for telephony data interface and video host distribution terminal for video data interface such that the system wherein the data head end would be coupled to the Internet in order to transmit/receive video services as claim.

Referring to claim 5 and 14, Roberts et al discloses in figures 1 and 2 of the system further comprising a telephony headend 12, coupled to the data headend 14 and to the network (figure 1), that transmits telephony data (page 5, lines 1-19, HDT 12 transmits optical telephony signals via optical fiber link 20) over the same network at a data rate different from the downstream transmission (as disclosed in the abstract and column 8, lines 1-24) and that received the upstream transmission for the data head end (as further disclosed of transmitting second bandwidth on page 14, lines 11-29) as claim.

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Referring to claim 6, Roberts et al discloses in figure 1 and 2, wherein the telephony head end 12 includes a communication link (optical fiber line) with the data headend VHDT as claim.

Referring to claims 7 and 15, Roberts et al discloses in figure 4, the system wherein the communication link includes at least T1 communication link as claim.

Referring to claims 8 and 16, Roberts et al discloses on page 3, lines 7-24, wherein the multi-point to point communication system includes a network that is a hybrid fiber/coax network as claim.

Referring to claims 9, 17, and 24, Roberts et al discloses on page 8, lines 1-24 and on page 14, lines 11-29, wherein the data rate of the downstream transmission (725-800 MHz bandwidth) is greater than the data rate of the upstream transmission (5 to 40MHz) as claim.

Referring to claim 21, Roberts et al discloses on page 8, lines 1-24 wherein modulating the data comprises modulating the data for transmission in at least one 6 MHz channel using quadrature amplitude modulation as claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 11, 19 and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. in view of Doshi et al. (U.S. Patent No. 6,055,424).

Referring to claims 2, 11, 19 and 23, Roberts et al. discloses in on page 8 that the modem uses a modulation techniques such as QPSK and QAM. Roberts et al. fails to explicitly disclose the system wherein the encoder is a quadrature amplitude modulation (QAM) 64 encoder. Doshi discloses an invention suited for bi-directional hybrid fiber/coax networks. Doshi discloses in figure 2 and column 5, lines 27 to column 6, lines 20 the method of downstream modulation elected is 64-quadrature amplitude modulation. These elections result in a raw bit transfer rate of 30.72 million bits per second. Therefore, since Roberts's invention provides a means to select the modulation technique, it would have been obvious to one of ordinary skill in the art to modify Robert's invention to use a 64 QAM in order to provide a high bit transfer rate and concurrently maintain QOS requirement.

5. Claims 3 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al in view of Humpleman.

Referring to claim 3 and 12, Roberts et al discloses in figure 1 and on page 10, lines 12 to page 11, lines 12 of a full duplex using coaxial cables with Ethernet type connection. Roberts et al fails to disclose wherein the at least one interface of the data head end includes a full duplex 100 Base T Ethernet connection to a switched Ethernet network. Humpleman disclose of multimedia network architecture. Humpleman further discloses in column 10 that the internal network³⁴ is 10 or 100 base-T Ethernet. The 100BaseT Ethernet connection is used when a high bit transfer rate is needed. Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Roberts et al to include the teachings of a 100Base T Ethernet connection in order to provide a higher bit transfer that is required for voice, video and data traffic in a multimedia network infrastructure.

Response to Arguments

6. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any response to this final action should be mailed to:

Box AF
Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 305-9051, (for formal communications; please mark "EXPEDITED
PROCEDURE)

Or:

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(703) 305-5403 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal
Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Chirag G Shah whose telephone number is 703-305-5639. The
examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the
organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent
Application Information Retrieval (PAIR) system. Status information for published applications
may be obtained from either Private PAIR or Public PAIR. Status information for unpublished
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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cgs
June 9, 2004


Ajit Patel
Primary Examiner